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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/565,664	07/14/2006	Sai Shankar Nandagopalan	PHUS030247	2487

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EXAMINER

OBAYANJU, OMONIYI

ART UNIT	PAPER NUMBER
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4163

MAIL DATE	DELIVERY MODE
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09/02/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/565,664	Applicant(s) NANDAGOPALAN, SAI SHANKAR	
	Examiner OMONIYI A. OBAYANJU	Art Unit 4163	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 July 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 January 2006 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>01/23/2006</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Drawings

1. The drawings are objected to under 37 CFR 1.83(a) because they fail to show the text to describe the functions of each of the boxes in all the drawings included in this application. Therefore the examiner requests some text description of each box to fully understand the drawings. Any structural detail that is essential for a proper understanding of the disclosed invention should be shown in the drawing. MPEP § 608.02(d). Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 4 and 15 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. Regarding claims 4 and 15 "the beacon interval" has not been mentioned or explained in the specification. Further, this term is not deemed to be readily understood by one having ordinary skill in the art. Accordingly, claims 4 and 15 do not satisfy the enablement requirement since one having ordinary skill in the art would not be able to make and use the invention.

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 4 and 15 recite the limitation "The beacon interval" in the second line. There is insufficient antecedent basis for this limitation in the claims. In light of the 112 1st paragraph rejection set forth above, since this term has not been mentioned or explained in the specification, the scope which is intended to be encompassed by these claims is unclear.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

7. Claims 1-20 are rejected under 35 U.S.C. 102(e) as being anticipated by Cimini, JR. et al. (US Publication No. 20030133427).

8. As to claim 1, Cimini teaches a method of providing bandwidth fairness in a wireless network (abs, and pg. 4, pp0049, lines 7-8), the method comprising: determining bandwidth requirement (abs, and pg. 3, pp0036, lines 1-8) for a particular service interval (pg. 1, pp0005 lines 13-16) for each of a plurality wireless stations in a network (fig. 1b, #12a,b,c); determining an allocated transmission time for each of the plurality of wireless stations based on a minimum physical transmission rate (pg. 3, pp0034 lines 14-16, and pp0037, lines 1-5); and fragmenting a packet of at least one of the wireless stations if the at least one wireless station transmits at other transmission rates that are less than the minimum physical transmission rate (pg. 5, pp0060, lines 1-4 and pp0048, lines 13-15).

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9. As to claim 2, Cimini teaches wherein the allocated time for each of the plurality of wireless stations is the proportional to the quantity of data to be sent by the respective stations (abs) during a service interval (pg. 1, pp0005 lines 13-16).
10. As to claim 3, Cimini teaches wherein for each of the at least one wireless station a number of the fragments is equal to the minimum physical transmission rate divided by the respective other transmission rate (pg. 4, pp0042 lines 7-11).
11. As to claim 4, Cimini teaches wherein the allocated time is equal to the total data of all packets generated in the beacon interval divided by the minimum physical transmission rate (pg. 4, pp0049).
12. As to claim 5, Cimini teaches wherein the wireless network is a multiple physical transmission rate wireless network (pg. 2, pp0030, lines 5-10).
13. As to claim 6, Cimini teaches wherein the wireless network is a Generalized Packet Radio Service (GPRS) network (pg. 1, pp0003, lines 11-12, Transmitting data at different transmitting rate is equivalent to (GPRS) network).
14. As to claim 7, Cimini teaches where in wireless network is a Wireless Local Area Network (WLAN) (pg.1, pp0003, line 1).
15. As to claim 8, Cimini teaches wherein each of the at least one wireless stations transmits all remaining fragments after all wireless stations that transmit at the minimum physical transmission rate have completed transmitting their packets (pg. 5, pp0062, lines 1-5).

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16. As to claim 9, Cimini teaches further comprising maintaining a particular quality of service QoS for each of the wireless stations that maintain transmission at the minimum physical transmission rate during a service interval (pg. 3, pp0037 lines 8-15).

17. As to claim 10, Cimini teaches wherein each of the at least one wireless stations transmits all remaining fragments (fragments equivalent to packet) until its physical transmission rate is greater than the minimum physical transmission rate (pg.5, pp0057, lines 1-7).

18. As to claim 11, Cimini teaches A wireless network, comprising: at least one access point (fig. 1b, #12d); and a plurality of wireless stations (fig. 1b, #12a, b, c), wherein in each service interval (pg. 1, pp0005 lines 13-16), the access point (fig. 1b, #12d) allocates a transmission time for each of the wireless stations based on their transmission requirements at a minimum physical transmission rate (pg. 3, pp0034 lines 14-16, and pp0037, lines 1-5) that is fixed for the service interval.

19. As to claim 12, Cimini teaches wherein the plurality of wireless stations transmit at the minimum physical transmission rate (pg. 3, pp0038, lines 1-6)

20. As to claim 13, Cimini teaches wherein if any of the plurality of wireless stations change their transmission rate to a lower transmission rate than the minimum physical transmission rate during the service interval (pg. 1, pp0005 lines 13-16), each of the wireless station that change their transmission rate fragment their respective packets (pg. 1, pp0005 lines 16-19).

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21. As to claim 14, Cimini teaches wherein a number of fragments is equal to the lower transmission rate divided by the minimum transmission rate (pg. 4, pp0042 lines 7-11).

22. As to claim 15, Cimini teaches wherein the transmission time is equal to the total data of all packets generated in the beacon interval divided by the minimum physical transmission rate (pg. 4, pp0049).

23. As to claim 16, Cimini teaches wherein each of the plurality of wireless stations is adapted to transmit at multiple physical transmission rates (pg. 2, pp0030, lines 5-10).

24. As to claim 17, Cimini teaches wherein the wireless network is a Generalized Packet Radio Service (GPRS) network (pg. 1, pp0003, lines 11-12, Transmitting data at different transmitting rate is equivalent to (GPRS) network).

25. As to claim 18, Cimini teaches where in wireless network is a Wireless Local Area Network (WLAN) (pg.1, pp0003, line 1).

26. As to claim 19, Cimini teaches wherein a particular quality of service (QoS) is maintained for each of the plurality of wireless stations that transmit at the minimum physical transmission rate for the entire service interval (pg. 3, pp0037 lines 8-15).

27. As to claim 20, Cimini teaches wherein each of the wireless stations that change their transmission rate to a lower transmission rate than the minimum physical transmission rate during the service interval (pg. 1, pp0005 lines 13-16) send their remaining fragments after all wireless station that transmit at the minimum transmission rate have completed transmission of their respective packets (pg. 5, pp0062, lines 1-5).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to OMONIYI A. OBAYANJU whose telephone number is (571)270-5885. The examiner can normally be reached on Mon - Fri, 7:30 - 5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Robinson can be reached on 571-272-2319. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/O. A. O./
Examiner, Art Unit 4163

/Mark A. Robinson/
Supervisory Patent Examiner, Art Unit 4163